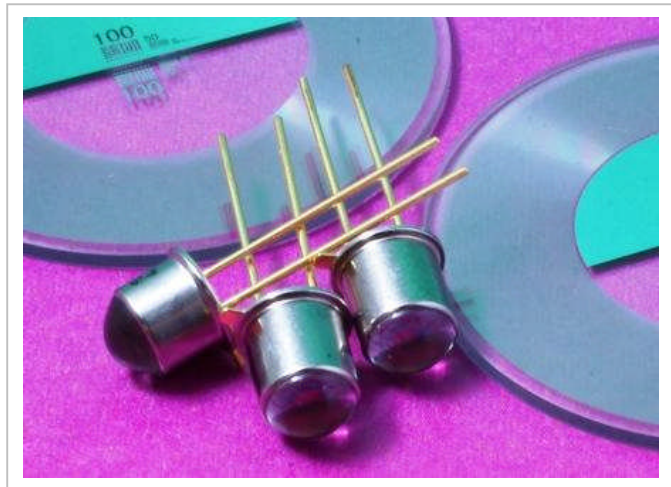


Parallel Ray LED for optical rotary encoders

The parallel ray irradiated from LED (light source) is a key for the precision of optical rotary encoders.

Alpha-One's Parallel Ray LED can help you for the high reliability of your products with an excellent performance.

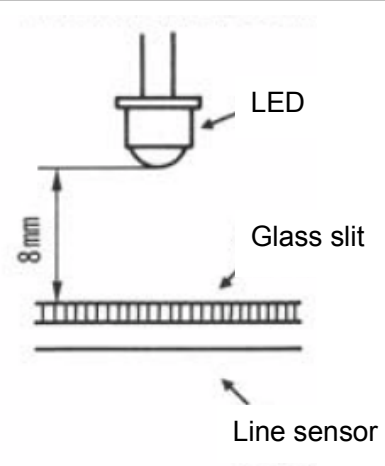
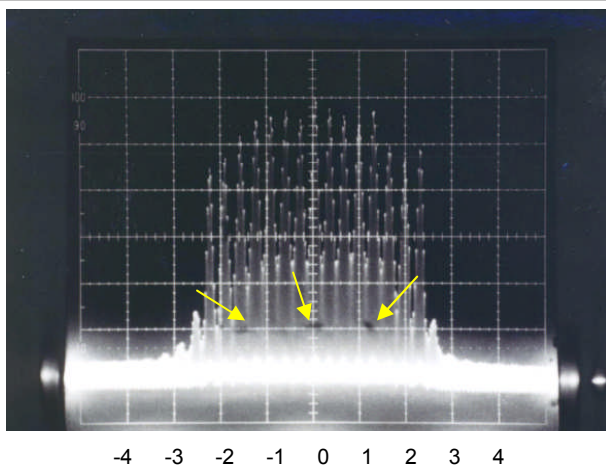


Reference Specification (Package: 5mm dia. Stem Can sealed with lens type)

T_a=25°C, I_F=50mA unless specified.

Parameter	Excellent parallel rays (872)		Point source LED (879)
Forward current (DC) – Max.	100mA		
Reverse Voltage(DC) – Max.	5V		
Operating Temperature	-30 ~ +100°C		
Radiated Power	Typ. 10mW	Typ. 6.5mW	Typ. 2.7mW
Viewing angle	±5°	±4°	±2.5°
Forward Voltage	Max. 2.0V		Max. 1.8V
Peak-wavelength	870nm		880nm
Cut-Off Frequency	12MHz (I _{FP} =50mA±10mA _{P-P})		6MHz (I _{FP} =50mA+20mA _{P-P})
Junction Capacitance	50pF (1MHz, V=0V)		65pF (1MHz, V=0V)
Temp. Coefficient of P _O	-0.3%/°C (I _F =10mA)		-0.05%/°C (I _F =10mA)
Temp. Coefficient of V _F	-2.1mV/°C (I _F =10mA)		-1.6mV/°C (I _F =10mA)

Radiation Pattern of LED through glass disk with 3 (three) slits

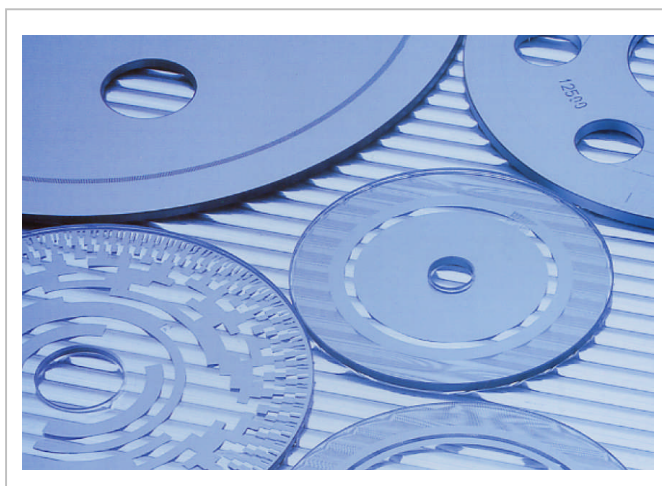


Glass slit disk for rotary encoders

Slit disk is a core part of the optical rotary encoders, and its high precision should be crucial for the quality of encoders.

The originally developed pattern generator makes it possible to produce everything in one continuous production under the control by ourselves, from the original disk to the finished one.

That's why we can offer the high quality glass slit disk to the market.



Reference Specification

Division accuracy	Max. ± 3 sec.
Pattern circularity	Max. $2 \mu\text{m}$
Slit width	Min. $5 \mu\text{m}$
Diameter	ϕ Max. 150
Typical glass thickness (just for reference)	0.3 ± 0.1 , 0.55 ± 0.1 , 0.7 ± 0.1 , 0.8 ± 0.02 , 0.85 ± 0.1 , 1.0 ± 0.1 , 1.1 ± 0.1 , 1.35 ± 0.1 , 1.5 ± 0.05 , 1.6 ± 0.1 , 1.8 ± 0.1 , 2.0 ± 0.1 , 2.5 ± 0.1 , 2.8 ± 0.1 , 4.8 ± 0.1 and so forth
Glass materials	Please ask us.

※ Production of absolute type and increment type with various curves and sine curve patterns are available.